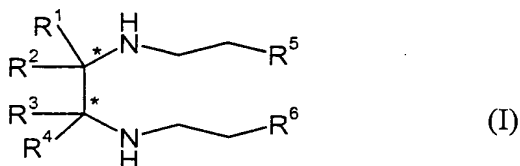


WHAT IS CLAIMED IS:

1. Compounds of the formula (I)



where

* marks stereogenic carbon atoms which each independently have R- or S-configuration, excluding meso-forms and

R^1 , R^2 , R^3 and R^4 are each independently hydrogen, C_1 - C_{12} -alkyl, C_4 - C_{24} -aryl or C_5 - C_{25} -arylalkyl, or R^1 , R^2 , R^3 and R^4 together with ethylene bridge are 1,2-(C_5 - C_8 -cycloalkyl) and

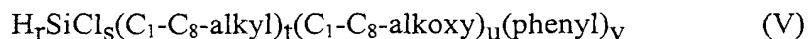
R^5 and R^6 are each independently radicals which are selected from the group of $-COOR^7$, $-CONR^8R^9$, $-CN$ or $-PO(OR^{10})_2$ where R^7 , R^8 , R^9 and R^{10} are each C_1 - C_{12} -alkyl, C_4 - C_{24} -aryl or C_5 - C_{25} -arylalkyl, or NR^8R^9 as a whole is a cyclic amino radical having a total of 4 to 12 carbon atoms.

2. Compounds according to Claim 1, characterized in that R^1 , R^2 , R^3 and R^4 are each independently hydrogen, C_1 - C_8 -alkyl or C_4 - C_{24} -aryl, or R^1 , R^2 , R^3 and R^4 together with the ethylene bridge are each 1,2-cyclohexylene.

3. Compounds according to Claim 1, characterized in that R^1 , R^2 , R^3 and R^4 together with the ethylene bridge are each (R,R)- and (S,S)-1,2-diphenyl-1,2-ethylene or (R,R)- and (S,S)-1,2-cyclohexylene.

4. Compounds according to Claim 1, characterized in that R^5 and R^6 are each independently selected from the group of $-COOR^7$, $-CONR^8R^9$, $-CN$ or $-PO(OR^{10})_2$ where R^7 , R^8 , R^9 and R^{10} are each C_1 - C_4 -alkyl or C_4 - C_{24} -aryl.
5. The compound of Claim 1 which is (1S,2S)- and (1R,2R)-bis-[N-(2-dimethylphosphonatoethyl)amino]cyclohexane, (1S,2S)- and (1R,2R)-bis-[N-(2-diethylphosphonatoethyl)amino]-cyclohexane, (1S,2S)- and (1R,2R)-bis-[N-(2-diphenylphosphonatoethyl)amino]cyclohexane, (1S,2S)- and (1R,2R)-bis-[N-(2-cyanoethyl)amino]cyclohexane, (1S,2S)- and (1R,2R)-bis-[N-(2-carboxylethylethyl)amino]cyclohexane and (1S,2S)- and (1R,2R)-bis-[N-(2-carboxymethylethyl)amino]-cyclohexane, (1S,2S)- and (1R,2R)-bis-[N-(2-dimethylphosphonatoethyl)amino]-1,2-diphenylethane, (1S,2S)- and (1R,2R)-bis-[N-(2-diethylphosphonatoethyl)amino]-1,2-diphenylethane, (1S,2S)- and (1R,2R)-bis-[N-(2-diphenylphosphonatoethyl)amino]-1,2-diphenylethane, (1S,2S)- and (1R,2R)-bis-[N-(2-cyanoethyl)amino]-1,2-diphenylethane, (1S,2S)- and (1R,2R)-bis-[N-(2-carboxylethylethyl)amino]-1,2-diphenylethane, or (1S,2S)- and (1R,2R)-bis-[N-(2-carboxymethylethyl)amino]-1,2-diphenylethane.
6. Transition metal complexes containing compounds according to Claim 1.
7. Transition metal complexes according to Claim 6, characterized in that the ratio of transition metal to compounds of the formula (I) is 0.5 to 1.5.
8. Transition metal complexes according to Claim 6, characterized in that the compounds are zinc and cobalt complexes.

9. Transition metal complexes according to Claim 6, characterized in that the transition metal complexes are obtainable by reacting halides, carbonates, cyanurates, isocyanates, sulphates, phosphates, nitrates, carboxylates or alkoxides of zinc or cobalt with compounds according to Claim 1.
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10. Transition metal complexes according to Claim 9, characterized in that a reducing agent is further in the reaction.
11. Transition metal complexes according to Claim 6, characterized in that the transition metal complexes are prepared by reacting zinc compounds ZnY_2 or $ZnYHal$ where Y is in each case independently hydrogen, BH_4 or an organic radical, and Hal is bromine, chlorine or iodine with compounds according to Claim 1.
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12. Catalysts comprising transition metal complexes according to Claim 6.
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13. Process for asymmetrically reducing ketones with silanes in the presence of catalysts, characterized in that the catalysts used are those according to Claim 12.
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14. Process according to Claim 13, characterized in that the silanes used are those of the formula (V)



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where

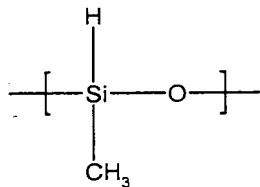
r is one, two or three

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and

$$(s + t + u + v) = (4 - r)$$

or polymethylhydrosiloxane (PMHS) having the repeating structural unit



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15. Process according to Claim 13, characterized in that the amount of catalyst is in a molar ratio of transition metal to ketone used of 0.01 to 0.20.

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16. Process according to Claim 13, characterized in that the ketones used are aryl ketones.

17. A process for preparing pharmaceuticals and agrochemicals comprising providing stereoisomerically enriched alcohols which have been prepared by a process according to Claim 13.